

APPENDIX H

**THE POLLUTANT REMOVAL CAPACITY OF POND
AND WETLAND SYSTEMS: A REVIEW**

THE POLLUTANT REMOVAL CAPACITY OF POND AND WETLAND SYSTEMS: A REVIEW

			No. of Storms	Watershed Area (Acres)	Treatment Vol. (In./Acre)	TSS	TP	SP	TN	NO3	COD	Pb	Zn
Dry Extended Detention													
1	Lakeridge	VA	28	88.0	0.00	○	●	⊗	○	○	⊗	⊗	⊗
2	London Commons	VA	27	11.4	0.22	●	●	⊗	●	⊗	○	●	●
3	Stedwick	MD	25	34.0	0.30	●	○	⊗	●	⊗	●	●	●
4	Maple Run III	TX	17	28.0	0.50	●	○	⊗	●	●	●	●	⊗
5	Oakhampton	MD	16.8		0.50*	●	●	⊗	⊗	⊗	⊗	⊗	⊗
6	None Given	KS	19	12.3	3.42	○	○	○	⊗	○	○	●	●
Wet Ponds													
7	Seattle	WA	5	0.75		●	●	⊗	⊗	⊗	●	●	●
8	Boynton Beach	FL	8			●	⊗	●	⊗	●	⊗	⊗	⊗
9	Grace Street	MI	18		** 0.52	○	○	⊗	○	⊗	⊗	○	⊗
10	Pitt-AA	MI	6	4872.0	** 0.52	○	○	⊗	⊗	○	○	●	○
11	UnquaNY		8		**10.70	○	●	⊗	⊗	⊗	⊗	●	⊗
12	Waverly Hills	MI	29		** 7.57	●	●	⊗	●	●	●	●	●
13	Lake Ellyn	IL	23		**10.70	●	○	⊗	⊗	⊗	⊗	●	●
14	Lake Ridge	MN	20	315.0	0.08	●	●	○	○	○	⊗	●	⊗
15	West Pond	MN	8	76.0	0.15	●	○	○	○	○	⊗	○	⊗

Key:

○ 0 to 20% Removal
 ○ 20 to 40% Removal
 ● 40 to 60% Removal

● 60 to 80% Removal
 ● 80 to 100% Removal
 ⊗ Insufficient Knowledge

Key:

TSS Total Suspended Solids
 TP Total Phosphorus
 SP Soluble Phosphorus
 TN Total Nitrogen

NO3 Nitrate
 COD Chemical Oxygen Demand
 Pb Lead
 Zn Zinc

Note: An Asterisk (*) denotes an inferred value

Note: (**) Denotes Volume of Basin/Volume of Runoff

Note: The table above provides summary data on the pollutant removal capability of nearly sixty stormwater pond and wetland systems. Each study differs with respect to pond design, number of storms monitored, pollutant removal calculation technique, and monitoring technique, so exact comparisons between studies are not appropriate.

Note: The information in the above table was taken from: *A Current Assessment of Urban Best Management Practices - Techniques for Reducing Non-Point Source Pollution in the Coastal Zone*, prepared by: Metropolitan Washington Council of Governments, March 1992.

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			No. of Storms	Watershed Area (Acres)	Treatment Vol. (In./Acre)	TSS	TP	SP	TN	NO3	COD	Pb	Zn
Wet Ponds (Cont'd)													
16	McCarrons	MN	21	608.0	0.19	●	●	⊗	●	⊗	●	●	⊗
17	McKnight Basin	MN	20	725.0	0.22	●	●	○	○	○	⊗	●	⊗
18	Monroe Street	WI		238.0	0.26	●	●	●	⊗	⊗	●	●	●
19	Runaway Bay	NC	5	437.0	0.33	●	●	⊗	⊗	⊗	⊗	⊗	○
20	Buckland	CT	7	20.0	0.40	●	●	⊗	⊗	○	⊗	○	○
21	Highway Site	FL	13	41.6	0.55	●	○	⊗	○	⊗	○	○	○
22	Woodhollow	TX	14	381.0	0.55	●	●	⊗	○	○	○	●	●
23	SR 204	WA	5	1.8	0.60	●	●	⊗	⊗	⊗	●	●	●
24	Farm Pond	VA		51.4	1.13	●	●	●	○	⊗	⊗	⊗	⊗
25	Burke	VA	29	27.1	1.22	⊗	○	●	○	⊗	○	●	○
26	Westleigh	MD	32	48.0	1.27	●	○	●	○	⊗	○	●	○
27	Mercer	WA	5	7.6	1.72	●	●	⊗	⊗	⊗	●	○	○
28	I-4	FL	6	26.3	2.35	●	●	⊗	⊗	●	⊗	●	●
29	Timber Creek	FL	9	122.0	3.11*	●	○	●	○	●	⊗	⊗	⊗
30	Maitland	FL	30-40	49.0	3.65	⊗	⊗	●	⊗	●	⊗	●	●
31	Lakeside	NC	5	65.0	7.16	●	○	⊗	⊗	⊗	⊗	⊗	●

Key:

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- ◐ 20 to 40% Removal
- ◑ 40 to 60% Removal

- ◒ 60 to 80% Removal
- 80 to 100% Removal
- ⊗ Insufficient Knowledge

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Wet Extended Detention													
32	Uplands	ONT	5	860.0		●	●	⊗	⊗	⊗	⊗	⊗	⊗
33	East Barrhaven	ONT		2139.0	0.12	●	●	⊗	⊗	⊗	⊗	⊗	⊗
34	Kennedy-Burnett	ONT	6	395.0	0.62	●	●	⊗	●	⊗	⊗	○	○
Stormwater Wetlands													
35	EWA3	IL				●	●	⊗	⊗	●	⊗	⊗	○
36	EWA4	IL				●	●	⊗	⊗	●	⊗	⊗	⊗
37	EWA5	IL				●	●	⊗	⊗	●	⊗	⊗	⊗
38	EWA6	IL				●	●	⊗	⊗	●	⊗	⊗	⊗
39	B31	WA	13	461.7	0.01	○	⊗	⊗	⊗	○	⊗	⊗	⊗
40	PC12	WA	13	214.0	0.03	●	⊗	⊗	⊗	○	⊗	⊗	⊗
41	McCarrons	MN	21	608.0	0.31	●	○	⊗	○	⊗	●	●	⊗
42	Queen Anne's	MD			0.50*	●	○	●	○	●	⊗	⊗	⊗
43	Swift Run	MI	5	1207.0	0.60	●	○	○	⊗	●	○	●	⊗
44	Tampa Office Pond	FL	3-8	6.3	0.61	●	●	●	⊗	●	○	●	⊗
45	Highway Site	FL	13	41.6	0.81	●	○	⊗	○	⊗	○	●	○
46	Palm Beach PGA	FL		2340.0	2.00*	●	●	⊗	⊗	○	⊗	⊗	⊗

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Extended Detention Wetlands															
47	Benjamin Franklin	VA			10	40.0	0.08	●	○	○	⊗	●	⊗	⊗	⊗
48	Tanners's Lake	MN				413.0	0.10	●	○	○	○	○	⊗	●	⊗
49	Mays Chapel	MD				97.0	0.10*	○	○	○	⊗	○	⊗	⊗	⊗
50	Clear Lake	MN				1070.0	0.15*	●	●	○	⊗	⊗	⊗	⊗	⊗
Natural Wetlands															
51	Hidden Lake	FL				55.4	1.08*	●	○	⊗	⊗	●	⊗	○	○
52	Wayzata	MN				73.0	1.25*	●	●	⊗	⊗	⊗	⊗	●	●
Pond/Wetland Systems															
53	Lake Munson	FL			3	23393.0		●	●	⊗	○	○	○	○	○
54	Carver Ravine	MN			15	170.0	0.30*	○	○	○	⊗	○	⊗	○	⊗
55	McCarrons	MN			21	608.0	>0.50	●	●	⊗	●	●	⊗	●	⊗
56	Lake Jackson	FL				2230.0	0.88*	●	○	⊗	○	⊗	⊗	●	●
57	Highway Site	FL			13	41.6	>1.35	●	●	⊗	⊗	⊗	⊗	⊗	⊗
58	Long Lake	ME			11	18.0	2.0*								

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